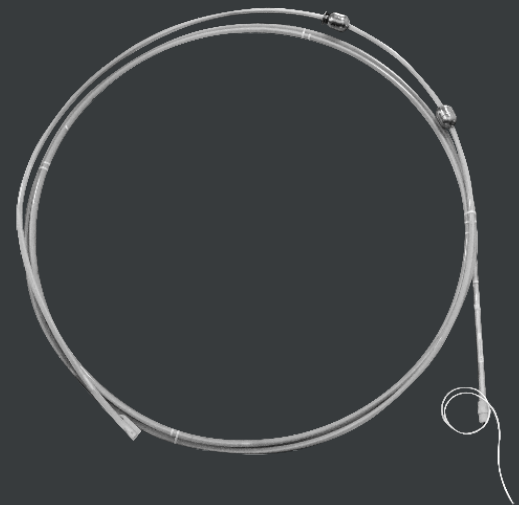


MCG 8151

Flexible Magnetostrictive Level Probe

The MCG 8151 Flexible Magnetostrictive Level Probe is designed for terminal operators, refinery engineers, wastewater managers, and EPC integrators who need accurate, continuous liquid-level and interface measurement in tanks with limited access or movement. It provides ± 0.001 -inch resolution, true average temperature via five embedded RTDs, and optional dual-float operation for simultaneous product and interface measurement. Housed in a flexible, chemically resistant PVDF body, the probe installs easily in underground, horizontal, or restricted-riser tanks up to 70 ft deep, reducing installation constraints common with rigid probes.

Unlike mechanical or incremental devices, the 8151 uses proven magnetostrictive technology to deliver drift-free digital measurement, long-term stability, and maintenance-free performance. Its solid-state design contains no moving parts, and the integrated point-switch function provides overfill and high/low-level protection without separate hardware. Used in combination with the MCG 1010M receivers, the probe supports digital communications and optional analog conversions for seamless integration with existing gauging systems, custody-transfer applications, and environmental compliance requirements.



Key Features

Flexible PVDF Construction

Adapts to underground, horizontal, or limited-access tanks while maintaining durability in chemical or hydrocarbon environments.

High-Resolution Sensing

Provides ± 0.001 -inch repeatability to support custody-transfer accuracy, precise inventory reconciliation, and interface monitoring.

Dual-Float Capability

Measures product and interface levels simultaneously, improving contamination detection and supporting decanting or BS&W control.

Five-Point Temperature Averaging

Embedded RTDs generate true average temperature for accurate API volume correction and improved product quality validation.

Integrated Point-Switch Mode

Functions as both a continuous probe and a high/low-level alarm, reducing the need for additional instrumentation or wiring.

Magnetostrictive Stability

Wiedemann-effect technology ensures long-term measurement reliability with no drift and no mechanical wear over years of service.

Typical Applications



TANK RETROFITS

Flexible construction enables installation through 2–4” riser openings, avoiding structural modifications and lowering retrofit labor effort.



CUSTODY TRANSFER

High-resolution digital measurement supports reconciled inventories and reduces billing disputes across regulated storage operations.



INTERFACE MONITORING

Dual floats accurately identify product-to-water or product-to-product interfaces for contamination prevention and quality assurance.



TEMPERATURE COMPENSATION

Five RTDs provide accurate average temperature data, preventing volume-calculation errors caused by stratified product layers.



LIMITED-ACCESS TANKS

Underground and buried tanks benefit from the probe's flexibility, enabling installation where rigid probes cannot physically fit.



ENVIRONMENTAL PROTECTION

Integrated switch functionality supports overfill prevention, leak mitigation, and regulatory compliance for high-risk storage systems.

Benefits



Precision Measurement

Magnetostrictive sensing with $\pm 0.001"$ resolution delivers custody-grade accuracy for inventory control, reconciliation, and compliance.



Easy Installation

Flexible PVDF design simplifies insertion into narrow or restricted risers, reducing installation time and minimizing site disruption.



Accurate Temperature Data

Five internal RTDs automatically average product temperature, improving corrected-volume calculations and reporting accuracy.



Built-In Redundancy

Simultaneous level and point-switch operation provides dual protection against overfill conditions without secondary hardware.



Chemical Durability

PVDF and stainless-steel materials withstand corrosive liquids, supporting long operational life and reduced maintenance demands.



Seamless Integration

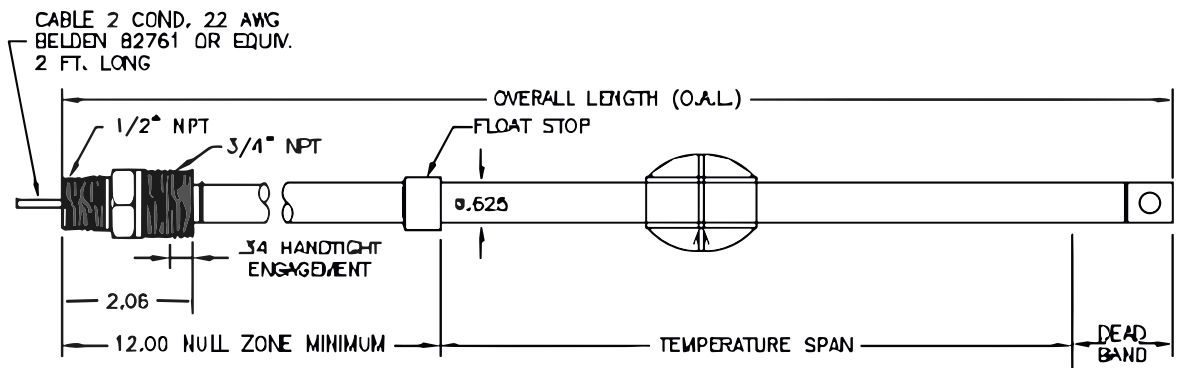
Native Tankway compatibility ensures straightforward connection to existing L&J receivers for unified tank-side data management.



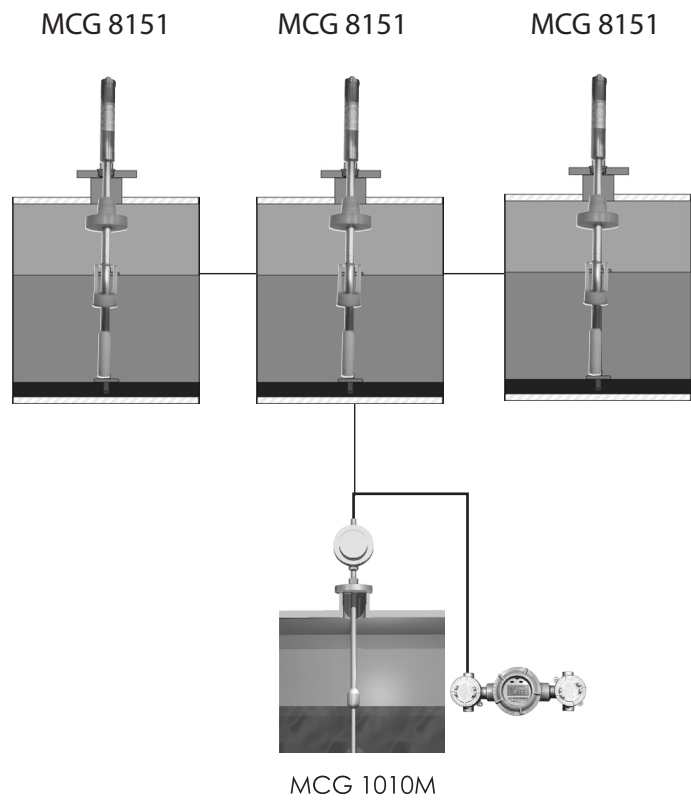
Technical Specifications
& Key Features

Measurement Technology:	Magnetostrictive (Wiedemann Effect)
Resolution:	±0.001 inch
Length Range:	Up to 840 in (70 ft) MCG8151-3C
Measurement Outputs:	Product and interface levels; optional interstitial capability
Temperature Measurement:	Average of five (5) internal RTDs (0.01 °F resolution)
Materials:	PVDF flexible probe; stainless steel or polyurethane floats (2" or 3" sizes)
Mounting Options:	2", 3", or 4" openings (NPT or flanged); top-mounted installation
Communication Protocol:	L&J Tankway standard (compatible with MCG 8150/1010M receivers)
Operating Temperature:	−40 °C to +85 °C (ambient electronics); process rated to +150 °C typical
Output Interface:	Continuous digital signal via Tankway bus; optional analog converter
Power Requirements:	12–36 V DC loop-powered from receiver
Accuracy:	±0.001 inch level; ±0.2 °F temperature
Certification:	Explosion-proof / intrinsically safe when used with approved receivers
Maintenance:	No calibration required after factory setup; self-diagnostics with error reporting
Model Options:	Single or dual float; product + interface measurement with/without interstitial capability

Dimensions



Typical System Layout



Model Number Selection

The model number will consist of a base number MCG 8151 followed by eight digits.
These digits will represent four sets of option tables:

ABC • TANK HEIGHT IN INCHES		
ABC - ABC	ABC - ABC	ABC - ABC
044" - 096" (3'8" - 8')	445" - 456" (37'1" - 38')	649" - 660" (54'1" - 55')
097" - 120" (8'1" - 10')	457" - 468" (38'1" - 39')	661" - 672" (55'1" - 56')
121" - 144" (10'1" - 12')	469" - 480" (39'1" - 40')	673" - 684" (56'1" - 57')
145" - 192" (12'1" - 16')	481" - 492" (40'1" - 41')	685" - 696" (57'1" - 58')
193" - 216" (16'1" - 18')	493" - 504" (41'1" - 42')	697" - 708" (58'1" - 59')
217" - 240" (18'1" - 20')	505" - 516" (42'1" - 43')	709" - 720" (59'1" - 60')
241" - 264" (20'1" - 22')	517" - 528" (43'1" - 44')	721" - 732" (60'1" - 61')
265" - 288" (22'1" - 24')	529" - 540" (44'1" - 45')	733" - 744" (61'1" - 62')
289" - 312" (24'1" - 26')	541" - 552" (45'1" - 46')	745" - 756" (62'1" - 63')
313" - 336" (26'1" - 28')	553" - 564" (46'1" - 47')	757" - 768" (63'1" - 64')
337" - 360" (28'1" - 30')	565" - 576" (47'1" - 48')	769" - 780" (64'1" - 65')
361" - 384" (30'1" - 32')	577" - 588" (48'1" - 49')	781" - 792" (65'1" - 66')
385" - 396" (32'1" - 33')	589" - 608" (49'1" - 50')	793" - 804" (66'1" - 67')
397" - 408" (33'1" - 34')	609" - 624" (50'1" - 52')	805" - 816" (67'1" - 68')
409" - 420" (34'1" - 35')	625" - 636" (52'1" - 53')	817" - 828" (68'1" - 69')
421" - 432" (35'1" - 36')	637" - 648" (53'1" - 54')	829" - 840" (69'1" - 70')
433" - 444" (36'1" - 37')		

DE • 1 OR 2 LEVELS / INTERSTITIAL CAPABILITIES	
01	Product Level & BS&W With Interstitial Capability
02	Product Level & BS&W Without Interstitial Capability
11	Product Level Only With Interstitial Capability
12	Product Level Only Without Interstitial Capability

*For other materials, consult factory.

FG • FLOAT MATERIAL / OPENING SIZE*	
03	3" Polyurethane Float / 3" Opening
04	3" Polyurethane Float / 4" Opening
12	2.05" Stainless Steel Float / 2" Opening
13	2.05" Stainless Steel Float / 3" Opening
14	2.05" Stainless Steel Float / 4" Opening

H • INTERFACE TYPE	
1	Connection to MCG 1010M
2	Connection to MCG 8100

Summary

For over 100 years, Cognesense and L&J Engineering have set the standard for precision in tank gauging. The MCG 8151 Flexible Magnetostrictive Probe extends that legacy with industry-leading accuracy, rugged construction, and installation ease for applications ranging from refineries and chemical plants and underground storage tanks. Its flexible design, temperature averaging, and dual-level detection make it a trusted solution for both new projects and retrofit installations worldwide. Choosing L&J Technologies magnetostrictive systems means safer installations, better data, and lower lifecycle costs for critical tank operations.

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This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request